In the Claims

Delete claims 1, 4, 7, 9, 11, 13, 17, 20, 22, and 23 without prejudice.

Amend certain of the remaining claims as follows:

2. (Amended) A passive optical coupler comprising:

a plurality of port pairs, each port pair comprising an input port and a corresponding output port;

wherein each input port is coupled to all output ports other than its corresponding output port.

3. (Amended) A communications access network comprising a passive optical coupler comprising a plurality of port pairs, each port pair comprising an input port and a corresponding output port;

wherein each input port is coupled to all output ports other than its corresponding output port.

5. (Amended) A passive optical network arrangement comprising:

a head-end station;

a plurality of subscriber stations;

a passive optical network providing optical connectivity from each of said stations to each other station;

wherein each of said plurality of subscriber stations is arranged to transmit on a common optical wavelength λ1 distinct from the wavelength λ2 on which said head-end station is arranged to transmit, and each of said plurality of subscriber stations is arranged to detect when another of said subscriber stations is transmitting on said common optical wavelength λ1 over said passive optical network, and in which the passive optical network comprises a passive optical coupler comprising a plurality of port pairs, each port pair comprising an input port and a corresponding output port;

A2 cont'd.

wherein each input port is coupled to all output ports other than its corresponding output port.

6. (Amended) A passive optical network arrangement according to claim 5 in which each of the plurality of subscriber stations communicates with the head-end station using a carrier sense/collision detection protocol.

12. (Amended) A telecommunications access network comprising a passive optical network arrangement including a passive optical coupler comprising a plurality of port pairs, each port pair comprising an input port and a corresponding output port;

A3

wherein each input port is coupled to all output ports other than its corresponding output port.

subs B1 A4

14. (Amended) An optical transceiver arrangement for a passive optical network arrangement including a passive optical coupler comprising a plurality of port pairs, each port pair comprising an input port and a corresponding output port;

wherein each input port is coupled to all output ports other than its corresponding output port, said transceiver arrangement comprising:

a transmitter arranged to transmit data on a first optical frequency;

a transmission detector arranged to receive, on said first optical frequency, signals from a network indicative of a transmission by another subscriber station on said first frequency;

a medium access logic unit arranged to prevent transmission on said first frequency while said transmission detector is detecting said signals from a network indicative of a transmission by another subscriber station on said first frequency .

16. (Amended) An optical transceiver arrangement according to claim 15 in which the station comprises:

a common input port arranged to receive both said data transmitted on a first optical frequency and said data on a second optical frequency;

an optical frequency splitter arranged to provide said data transmitted on a first optical frequency to said transmission detector and said data on a second optical frequency to said receiver.

18. (Amended) An optical transceiver arrangement according to claim 14 in which the transmission detector comprises a simple light detector.

21. (Amended) A method of operating a passive optical network arrangement comprising:

a head-end station;

a plurality of subscriber stations;

a passive optical network providing optical connectivity from each of said stations to each other station;

the method comprising the steps of:

at one of said plurality of subscriber stations transmitting a signal on an optical frequency common to said subscriber stations and distinct from that on which said head-end station is arranged to transmit, said signal being transmitted to a passive optical coupler comprising an input port and a corresponding output port;

wherein each input port is coupled to all output ports other than its corresponding output port; and

at one of said plurality of subscriber stations detecting when another of said subscriber stations is transmitting on said common optical frequency over said passive optical network.

Add new claims 24 – 27 as follows:

24. (New) A passive optical coupler according to claim 2, wherein it comprises an arrangement of optical power splitters and optical pathways connecting said port pairs, said splitters and pathways being arranged such that a signal transmitted to an input port is not returned by the coupler to its corresponding output port but is conveyed to all other output ports.

25. (New) A passive optical coupler according to claim 2, wherein it comprises 2^n+1 port pairs; where n is an integer equal to or greater than 1.

26. (New) A passive optical network arrangement according to claim 5, wherein the passive optical coupler comprises an arrangement of optical power splitters and optical pathways connecting said port pairs, said splitters and pathways being arranged such that a signal

transmitted to an input port is not returned by the coupler to its corresponding output port but is conveyed to all other output ports.

27. (New) A passive optical network arrangement according to claim 26, wherein the optical power splitters of the passive optical coupler are arranged to apply a large asymmetric power split to an outputted upstream wavelength λ1 signal directing the largest portion of the split optical power signal towards an input port of the head-end station.